Enabling Technology Centers

Presented To:

The Hazards Research and Applications Workshop

Boulder, Colorado

Paul Bourget

Tuesday, July 13th, 1999

Background

The President's Information Technology Advisory Committee (PITAC) report concluded that significant new research on computing and communications systems was needed to:
- build an infrastructure that is affordable and usable by all citizens
- support the compelling "transformations" that are underway
- support the education/preparation for careers in IT research

It was felt that Federal IT R&D is too heavily focused on near-term problems

Based on the results of the PITAC report, the ITCM was tasked to draft a plan for Enabling Technology Centers (ETCs) focused on crises management

"After careful review of the Federal programs this Committee has concluded that Federal support for research in information technology is seriously inadequate." (PITAC Report – 2/99)

Information Technology for Crises Management

One of the most demanding of IT applications, requiring today's most advanced technologies in:

- Large scale networking
- High end computing
- High confidence systems
- Human centered systems
- Education, training and human resources

Crises Management ETC

Its mission would be to focus on the integration of applied technology and development in support of crises management.

Functions:

- Coordinate research and development activities
- Prototype, demonstrate and validate related tools and software
- Act as a clearinghouse for developmental technologies
- Develop educational curricula for students and career professionals
- Encourage the transfer of technology to appropriate organizations

Research Areas

The planned ETC would adapt fundamental and applied research methodologies in support of emergency management in areas to include:

• Networking technologies, deployment technologies and management
• Distributed high-end computing for simulating natural disasters
• Research and development in "data mining" (best available source)
• Research and development in information triage
• Communications options
• Security (privacy/accessibility)
• Decision support functionality
• Prototype, test and demonstrate tools and software
• Inhibiting factors

ETC Organizational Options

- <u>Geographically-based</u>: regional centers
- <u>Hazard- and threat-based</u>: theme centers
- <u>Technology-based</u>: centered around existing capabilities
- *<u>Virtual</u>: distributed*

The Federal Role

- To assume the primary responsibility for long-term, high risk research

- To develop integrative approaches for academia, industry and government to apply next-generation IT to critical areas (e.g., crises management, mitigation and public safety)

The Next Steps

- Finalize the plan
- Make recommendations to influence the FY2001 budget submissions
- Develop a ten-year budget strategy